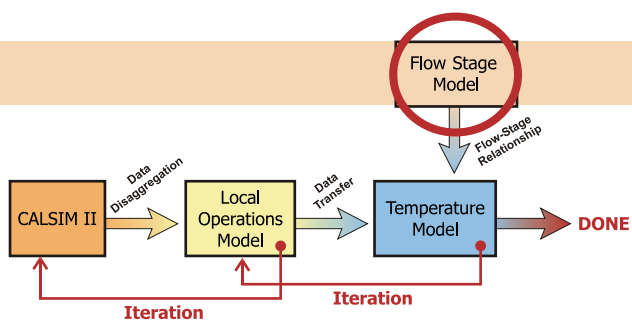


Feather River

Flow-Stage Modeling (HEC-RAS)



Information Sources

U.S. Army Corps of Engineers Sacramento-San Joaquin Basins Comprehensive Study:

- Topographic and hydrographic data collected on Feather River in 1997 and 1998
- Cross sections cut from topographic data by COE
- Data developed for flood study

Flow-stage records at gages along river

- As-built drawings
- Inline weirs
- Bridges

Aerial photos

- Rock diversion dam
- Riffle below Yuba Gage

Bridge data developed for FEMA study

Gages Used for Calibration

<u>Gage Name</u>	<u>CDEC Gage ID</u>	<u>Approximate River Mile</u>	<u>River Basin</u>
Gage at Oroville Dam	ORO	71.5	Feather River
Gridley Gage	GRL	50.64	Feather River
Live Oak Gage	FLO	38.99	Feather River
Yuba City Gage	YUB	27.50	Feather River
Boyd's Landing Gage	FBL	20.75	Feather River
Bear River at Camp Far West Dam	CFW	N/A	Bear River
Marysville Gage	MRY	2.0	Yuba River
Nicolaus Gage	NIC	8.25	Feather River
Verona Gage	VON	79.25	Sacramento River

S u m m a r y

- Stand-alone flow-stage model for Feather River
- Computed river stages compared well with river gages for four flows from 2,000 cfs to 10,000 cfs.
- Model can produce flow-stage rating curves at any location along the river
- Low flows in the upper Feather River (above Gridley gage) may result in stage predictions that vary from actual stages in that reach

Model Calibration

1. Removing unnecessary sections in Comp Study model
2. Adding necessary structures along the River
 - Thermalito Diversion Dam
 - Fish Barrier Dam
 - Rock Diversion Dam (RM 38.76)
3. Verifying cross section based on additional information
4. Adjusting Manning's n roughness coefficients
5. Modifying channel geometry for the lower Feather River

Four Calibration runs

- 2,000 cfs
- 4,000 cfs
- 6,000 cfs
- 10,000 cfs

Study Area

